

CLASS SCHEDULE

AM 9:00 - 12:00
PM 1:00 - 4:00
*Full Day 9:00 - 4:00

CUSTOMER ADMINISTRATIVE CLASSES

Executive Seminar* **705 Systems & Methods**
1-19 — 1-21 2-19 — 2-26 AM
4-6 — 4-8 4-13 — 4-17 AM
5-25 — 5-27 6-3 — 6-9 AM
6-10 — 6-12

650 Systems & Methods
4-13 — 4-17 PM
6-3 — 6-9 PM

PROGRAMMING CLASSES

305 Programming* **704 Programming***
1-5 — 1-14 1-19 — 2-18
2-5 — 2-16 4-20 — 5-15
2-19 — 3-3
3-23 — 4-1
5-18 — 5-27
6-17 — 6-26

650 Programming* **705 Programming***
1-5 — 1-16 1-5 — 1-30
1-19 — 1-30 2-19 — 3-20
2-19 — 3-5 4-6 — 5-1
3-9 — 3-20 5-4 — 6-1
3-23 — 4-3 6-3 — 6-30
4-6 — 4-17
4-20 — 5-1
5-4 — 5-15
5-18 — 6-1
6-3 — 6-16
6-17 — 6-30

650 Scientific*
3-23 — 4-3

ADDITIONAL FEATURES

650 Additional Features* **7070 Ramac***
To be announced
2-5 — 2-11
4-6 — 4-10
6-3 — 6-9
6-10 — 6-16

MACHINE OPERATOR CLASSES

Key Punch Operation **Machine Operation**
1-5 — 1-16 AM 1-5 — 1-16 PM
1-19 — 1-30 AM 1-19 — 1-30 PM
2-5 — 2-18 AM 1-19 — 1-30 PM
3-9 — 3-20 AM 2-5 — 2-18 PM
3-23 — 4-3 AM 2-19 — 3-5 AM
4-6 — 4-17 AM 2-19 — 3-5 PM
4-20 — 5-1 AM 3-9 — 3-20 AM
5-4 — 5-15 AM 3-9 — 3-20 PM
6-3 — 6-16 AM 3-23 — 4-3 AM
4-6 — 4-17 PM 3-23 — 4-3 PM
4-20 — 5-1 AM 4-6 — 4-17 PM
4-20 — 5-1 PM 4-20 — 5-1 PM
5-4 — 5-15 PM 5-4 — 5-15 PM
5-18 — 6-1 AM 5-18 — 6-1 AM
5-18 — 6-1 PM 5-18 — 6-1 PM
6-3 — 6-16 AM 6-3 — 6-16 PM
6-17 — 6-30 AM 6-17 — 6-30 PM
6-17 — 6-30 PM 6-17 — 6-30 PM

CONTROL PANEL WIRING CLASSES

Functional Wiring Principles **Control Panel Wiring 077**
1-5 — 1-16 AM 1-5 — 1-14 AM
1-5 — 1-16 PM 1-19 — 1-28 PM
1-19 — 1-30 AM 2-19 — 3-3 PM
1-19 — 1-30 PM 3-9 — 3-18 PM
2-5 — 2-18 AM 4-6 — 4-15 PM
2-5 — 2-18 PM 5-4 — 5-13 PM
2-19 — 3-5 AM 5-18 — 5-27 PM
2-19 — 3-5 PM
3-9 — 3-20 AM
3-23 — 4-3 AM
3-23 — 4-3 PM
4-6 — 4-17 AM
4-20 — 5-1 AM
4-20 — 5-1 PM
5-4 — 5-15 AM
5-4 — 5-15 PM
5-18 — 6-1 AM
5-18 — 6-1 PM
6-3 — 6-16 AM
6-17 — 6-26 PM

Control Panel Wiring 101

1-5 — 1-14 PM
2-5 — 2-16 PM
3-9 — 3-18 AM
3-23 — 4-1 PM
4-6 — 4-15 AM
4-20 — 4-29 AM
5-4 — 5-13 PM
6-3 — 6-12 PM
6-17 — 6-26 PM

Control Panel Wiring 402 Part I

1-5 — 1-16 AM
1-19 — 1-30 AM
2-5 — 2-18 AM
2-19 — 3-5 AM
3-9 — 3-20 PM
3-23 — 4-3 AM
4-6 — 4-17 PM
4-20 — 5-1 AM
5-4 — 5-15 AM
5-18 — 6-1 AM
6-3 — 6-16 AM
6-17 — 6-30 AM

Control Panel Wiring 402 Part II

1-19 — 1-30 PM
2-19 — 3-5 PM
3-9 — 3-20 AM
3-23 — 4-3 PM
4-20 — 5-1 PM
5-4 — 5-15 AM
5-18 — 6-1 PM
6-17 — 6-30 PM

Control Panel Wiring 407 Part II

1-5 — 1-16 AM
1-19 — 1-30 PM
2-5 — 2-18 AM
2-19 — 3-5 PM
3-9 — 3-20 PM
3-23 — 4-3 PM
4-6 — 4-17 AM
4-20 — 5-1 PM
5-4 — 5-15 AM
5-18 — 6-1 PM
6-3 — 6-16 PM
6-17 — 6-30 PM

Control Panel Wiring 602A

1-19 — 1-30 AM
2-19 — 3-5 AM
4-6 — 4-17 AM
5-18 — 6-1 AM

Control Panel Wiring 407 Part I

1-5 — 1-16 AM
1-5 — 1-16 PM
1-19 — 1-30 AM
1-19 — 1-30 PM
2-5 — 2-18 AM
2-5 — 2-18 PM
2-19 — 3-5 AM
2-19 — 3-5 PM
3-9 — 3-20 AM
3-9 — 3-20 PM
3-23 — 4-3 AM
3-23 — 4-3 PM
4-6 — 4-17 AM
4-6 — 4-17 PM
4-20 — 5-1 AM
4-20 — 5-1 PM
5-4 — 5-15 AM
5-4 — 5-15 PM
5-18 — 6-1 AM
5-18 — 6-1 PM
6-3 — 6-16 AM
6-3 — 6-16 PM
6-17 — 6-30 AM
6-17 — 6-30 PM

Control Panel Wiring 604

1-5 — 1-16 PM
2-5 — 2-18 PM
2-19 — 3-5 AM
4-6 — 4-17 PM
5-4 — 5-15 PM
5-18 — 6-1 AM
6-17 — 6-30 AM

Control Panel Wiring 610

3-23 — 3-27 AM
6-17 — 6-23 AM

Control Panel Wiring 858

2-5 — 2-18 PM
4-20 — 5-1 PM

APPLICATIONS FOR DATA PROCESSING CLASSES

Form 821-59 is available from your IBM Sales Representative or by contacting the IBM Education Center. Form 821-58 may also be used until any existing supply is exhausted.

Applications should be received at least four weeks in advance of scheduled date.

RECOMMENDED PREREQUISITES

Please note recommended prerequisites where indicated in the Resume. Prerequisite classes are strongly urged to insure uniform background for students and to make the training received here more effective for all customers. An examination of the course description will indicate the need for orderly progression in the approach to a comprehensive understanding of IBM equipment.

ENROLLMENTS

Enrollments will be confirmed by phone upon receipt of the application by the IBM Education Center. Enrollment date requested cannot be guaranteed for the reason applicants are enrolled on a "first come first served" basis. The Department of Education reserves the right to cancel classes when insufficient enrollments justify.

APTITUDE TESTS

Aptitude tests are available to all customers to assist in the selection of operators. They may be obtained through your IBM sales representative.

Form No.
Card Punch Aptitude Test MO4-6351
Answer sheet in test booklet MO4-6375
Machine Operator Aptitude Test MO4-9383
EDPM Aptitude Test MO4-6762
Answer Sheet MO4-6763

SPECIAL CLASSES

Types of classes not appearing on this Schedule may be arranged by contacting your Sales Representative.

RESUME OF CLASSES AND RECOMMENDED PREREQUISITES CUSTOMER EXECUTIVE CLASSES

Executive Seminars **3 full days**
The course includes functions of data processing, stored program concepts, and general discussion of 704-705-709, 650, 305, 7070 and applications related to these systems.
650 Systems and Methods **5 half days**
The course includes functions of data processing, introduction to 650 and stored program concept, methods used in developing feasibility study and guide lines for preparing for the 650 system. In addition, manpower organization, physical installation requirements and operational aids are discussed.

705 Systems and Methods 5 half days

The course includes functions of data processing, introduction to 705 and stored program concept, methods used in developing feasibility study and guide lines for preparing for the 705 system. In addition, manpower organization, physical installation requirements and operational aids are discussed.

PROGRAMMING CLASSES**305 Programming** 8 full days

Recommended Prerequisite: Functional Wiring
Designed for personnel familiar with control panel wiring principles. The course includes input, processing, and output components. Lecture and practice problems covering both programming and control panel wiring, inquiry disk file addressing and file organization, case study problems, and concepts of inline processing are also included.

650 Programming 10 full days

Recommended Prerequisite: Aptitude Test
Lecture and class problems covering machine functions, basic arithmetic functions, branching, table look up and loading. This course includes Block Diagramming Techniques, Optimum Programming, Programming Techniques, Loading Routines, Methods of Checking the Programming and an introduction to Symbolic Optimum Assembly Programs.

650 for Scientific Personnel 10 full days

Recommended Prerequisite: Aptitude Test
Lecture and class problems designed primarily for engineers and scientists who will program the 650. Class time will be devoted to supervised programming of examples from the numerical computations usually encountered in technical applications. SOAP and SIR will be emphasized.

704 Programming 20 full days

Recommended Prerequisite: Aptitude Test
Lecture and class problems on programming the 704. Class time will include supervised programming of practice exercises of a general nature, and Fortran.

705 Programming 20 full days

Recommended Prerequisite: Aptitude Test
Lecture and class problems covering speed, characteristics, and operation of the components of the system. Detailed explanation of instructions, checking, and of file procedures, autocoder programming, advanced programming techniques, and case study problems.

709 Programming for Those with 704 Experience 5 full days

Course covers basic concepts of 709 programming and is designed for personnel who have an understanding of 704 programming.

7070 Programming

Duration and content of course to be announced.

ADDITIONAL FEATURES CLASSES**650 Additional Features** 5 full days

Recommended Prerequisite: 650 Programming
Discussion of additional features which can be incorporated into a 650 System such as high speed storage, tapes, printers, indexing registers and tape data selector.

650 RAMAC 5 full days

Recommended Prerequisite: 650 Programming
Programming and timing considerations for 650 Systems covering the following components: RAMAC, tapes, multiple input-output, immediate access storage, inquiry stations, and indexing registers.

Tape Data Selector 5 half days

Recommended Prerequisite: 407 Wiring
The course is designed for personnel with 407, 519 control panel wiring experience and covers listing, group controlling, MLR, record skipping, and file search.

MACHINE OPERATOR CLASSES**024-6 Operation** 10 half days

Introduction to IBM Accounting and card design, with practice exercises, use of program card, duplicating, Sales Analysis exercises and machine practice on 024.

Machine Operation 10 half days

Introduction to IBM Accounting and card design, with lecture, demonstration and machine practice on Types 024, 077, 080, 082, 403, 514 and 552.

CONTROL-PANEL WIRING CLASSES**Functional Wiring Principles** 10 half days

Recommended Prerequisite: Machine Operation
Introduction to wiring of IBM machines. Covers wiring principles common to several machines; wiring to print, wiring to punch, counter operation and control, comparing, and selecting. Concentrates on terminology and giving the students the reasons behind these principles.

077 Wiring 8 half days

Recommended Prerequisite: Functional Wiring
Lecture and class problems on sequence checking, matching, merging and selection; advanced applications in manual.

101 Wiring 8 half days

Recommended Prerequisite: Functional Wiring
Course includes lecture and machine practice covering capacity, sorting, group indication, accumulation, selecting, comparing, summary punching, sequence checking, consecutive number checking, use of recode hold, vari-

402 Part I Wiring 10 half days

Recommended Prerequisite: Functional Wiring
Lecture, class problems and machine practice covering detail printing, group printing, counter operations, single and multiple X selection, class and field selection, group indication, total transfer, set-up change switches and simple carriage operations.

402-3 Part II Wiring 10 half days

Recommended Prerequisite: 402 Part I
Lecture, class problems and machine practice covering a very brief review of 402 Part I Class content, as well as crossfooting, special programming, head control and advanced carriage wiring, MLP operations, and summary punching.

407 Part I Wiring 10 half days

Recommended Prerequisite: Functional Wiring
General content same as 402 Part I Wiring Class, plus zero print control, punctuation, and basic storage unit wiring and basic MLR.

407 Part II Wiring 10 half days

Recommended Prerequisite: 407 Part I
Lecture, class problems and machine practice covering a very brief review of 407 Part I Class content, as well as offset total printing, space control, crossfooting, "R" symbol switch selection, negative and zero balance recognition, machine stop, split column control, special programming, advanced summary punching, tape controlled carriage, and MLR.

602A Wiring 10 half days

Recommended Prerequisite: Functional Wiring
Lecture, class problems and machine practice covering crossfooting with variable signs, multiplication, multiplication checking, and division.

604 Wiring 10 half days

Recommended Prerequisite: Functional Wiring
Lecture and class problems covering crossfooting, simple and group multiplication, division, verification, summary punching, gang punching, multiplication and quotient expansion; special emphasis on Planning Charts.

610 Wiring 5 half days

Lecture and class problems designed primarily for engineers and scientists who will program and operate the 610. The course includes practice problems covering both programming and control panel wiring.

858 Wiring 10 half days

Recommended Prerequisite: Functional Wiring
Includes lectures and class problems covering machine capacities, control panel wiring, and planning of applications. Emphasis will be placed on correlation of form



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